

estimating an etch endpoint; and, during etch,

directing radiant energy at two or more wavelengths onto the layer to be etched,

detecting a last intensity maximum reflected at a first wavelength prior to the estimated etch endpoint, and

detecting an intensity maximum reflected at a second wavelength first occurring after the last intensity maximum at the first wavelength.

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8. (Amended) A method for determining an endpoint for etching a layer having an approximate initial thickness, comprising steps of, during etch,

directing radiant energy at three or more wavelengths onto the layer to be etched;

selecting first, second, and third wavelengths;

approximating an etch rate from a time interval between a first detected intensity minimum and an adjacent intensity maximum reflected at the third wavelength, and estimating an etch endpoint from the approximate initial thickness of the layer and the approximate etch rate;

detecting a last intensity maximum reflected at the first wavelength prior to the estimated etch endpoint; and